MODIS Technical Team Meeting
Thursday, June 7, 2001
3:00 PM

Vince Salomonson chaired the meeting. Present were Jack Xiong, Bill Barnes, Bruce Ramsay, Eric Vermote, Ed Masuoka, Steve Kempler, Skip Reber, Bob Murphy, Wayne Esaias, Ken Anderson, Francesco Bordi, and Barbara Conboy, with Rebecca Lindsey taking the minutes.

1.0 Schedule of Upcoming Events

- GES DAAC User Working Group Meeting — June 14-15
- MODIS Science Team Meeting — September 24-26, 2001
  Location: TBD
- ESIP Federation Meeting — July 24-26, 2001
  Location: University of North Dakota, Grand Forks
- Terra Results Symposium — January 7-11, 2002
  RSMAS/Univ. of Miami
  Location: Miami, FL

2.0 Meeting Minutes

2.1 Instrument Update

Anderson reported that they are still trying to understand the problem with the gain changes on Bands 1 and 2. They think the problem probably did not exist on PFM. Although they are still uncertain what the problem is, the Bands appear to be back in line.

Xiong showed viewgraphs of FM1 radiometric stability using SRCA data, with the key feature being how all of the bands trended together for most of the time, but then Bands 1 and 2 diverged greatly. Vermote asked if there were sphere calibration data that would show this problem. Xiong said no. Xiong continued by saying that one reason that MCST thinks it is not the SRCA is that all other bands trend nominally, and all detectors go together. Anderson said current thinking was that the problem was with the focal plane.

Esaias asked if Xiong could plot the ratio of Band 15 and 16 because he thought the chart showed band ratio changes that look rather dramatic. He said that if the problem is the focal plane, that is of some concern. Anderson responded that he thinks that ratio is pretty stable because there is little change in any band in

relation to itself. He thought SBRS has done a plot like the one Esaias suggested and found that all Bands stay within 1-2% of themselves.

Barnes reported that they are beginning to suspect the SDSM screen on FM1 was put on wrong. MCST thinks it is seeing the same wrong pattern that it saw on PFM. Xiong showed charts of orbital SDSM data from 6 yaw maneuvers. MCST's simulation can match one of the yaw data very well, but not all the yaw data, with one set of simulated parameters. There was some discussion of the degree of field aperture tilt (8° or 13.5°) in the SDSM design. Barnes said that it appears as though the screen may have been tilted instead of rotated, as it was supposed to be.

Anderson commented that since MCST was able to model the impacts on PFM, perhaps they could simply introduce a correction in the FM1 L1B as opposed to dismantling the spacecraft in order to change the screen. Esaias replied that this is supposed to be a standard, and that we shouldn't have to model it.

There was some discussion about the problems with the Solid State Recorder (SSR) and the impacts of the next shuttle launch on the current work around, which is based on increased TDRSS contacts. The launch may cause MODIS to lose some data. Murphy stated that the fact that MODIS is engaged in synoptic scale measurements ought to carry some weight in determining how the situation is handled. Barnes indicated that the first idea for handling the data relay disruptions caused by the launch would be to borrow SSR modules from other instruments, and the second idea would be to drop back to 40-60% day/night data collection.

2.2 GES DAAC

Kempler reported that they are waiting for EDOS to deliver data from the time period during the SSR event. It appears that they will never be able to recover 5 minutes from each orbit during that period. He next reported that S4P, which will be used for reprocessing, is in testing. The DAAC has been working with MODAPS to ensure that the new consistent-year PGEs are producing good data, and this checking has caused a small backlog.

They are currently working on SAFARI, and have processed about 20 granules out of 240. He also indicated that they would be reporting their AGU (user survey) findings soon. He also invited the team to review and comment on the caveats page.

With respect to data conversion tools, George Serafino has been researching options for converting HDF-EOS to flat binary, and Kempler reported that they should soon have some ideas about the most cost effective way to do so.

Kempler said that although some tools are already available to users, he would ultimately like to see the option of conversion available at the time of order. He said that he plans to look at all the tools and summarize them for users, as well as see if there are any missing tools.

Bordi indicated that he had been asked by Chris Scolese to help in any way he could. Kempler responded that once the DAAC's User Working Group Meeting is over, he would have a summary of available tools, and that would be an appropriate time to discuss where help would be needed. He also mentioned that they have received some money to implement data sub-setting tools.

The DAAC has begun the forward stream of consistent year processing, and retrospective processing will begin June 12th.

2.3 MODAPS Update

Masuoka said that MODAPS has found a solution to their disks locking up that does not involve wiping out entire file structures. Also, the Legato software has a bug, and they have a fix for it, but it is a bit difficult to implement. He also reported that they have had a couple of small hiccups with the pdr server, and they still have to figure out how to close days. He felt that MODAPS is still in pretty good shape for the consistent year.

2.4 Oceans Update

Esaias reported that Bob Evans and others at Miami have come up with a correction that takes out cross track variation in the ocean color product, and they are optimistic that the patch will come in for the June 12th deadline.

He said that there were two AGU ocean posters, and Ron Vogel, who manned them, indicated that there was a lot of interest in them and the consistent year data soon to become available. (Kempler asked if the team would like to see the posters, and Salomonson said yes.)

Esaias said the with respect to changing the WRS2 reference system for Aqua, he had been speaking with Paul Huang. Apparently, if they change the reference system, it causes AMSR problems. Esaias said that he does not think the reference system needs to be involved in changing the orbital paths in order to

maximize Aqua/Terra overlap, but he is unsure he can convince them at this point. He has asked for a descending track map from Aqua and Terra to help illustrate the concept.

2.5 NOAA-NESDIS Update

Ramsay said that a few weeks ago he had been preparing for a talk on AVHRR snow algorithms, and he tried to get comparable MODIS maps for April. The DAAC indicated that they are about 104 days behind, i.e. the most recent L2 map they had was from end of February. He wondered if that was correct. Masuoka said that it was. He added that MODAPS would be picking that time period up as part of reprocessing.

Also, he asked about the fact that all of April and most of May data have significant bad data indicators or had missing granules. He wondered if Masuoka knew if this was still due to bit flip issues. Masuoka said he did not think most of it was attributable to that. He suggested it might be a problem with packet order timing, or perhaps the ancillary data may not be coming in within NOAA's three-hour window. One way to check is to look at Jacques Descloitres' Rapid Response Imagery. Masuoka said he would send Ramsay the URL.

Ramsay said he brought the topic up because he has been invited to give a talk on MODIS at the National Interagency Fire Center, and he wondered whether it was going to be possible to meet their three-hour window. Masuoka said that he believes they have a slightly longer time frame, perhaps five hours, but that we should look at the ancillary data issue to see if that is a problem.

2.6 General Discussion

Salomonson asked Esaias if he had heard about Liam Gumley's "one-band chlorophyll" image product. Salomonson had heard it referred to by Jim Dodge/HQ. Esaias said he had not, but he would caution anyone from using the term "chlorophyll" with a one-band product. He reported that Mark Abbott has a product that uses high-resolution bands specifically for coastal regions.

Kempler said he had been approached about getting real time MODIS data to support the CAMEX-4 field campaign. Esaias said that Otis Brown had said they would be glad to help out if they could get the data.

Reber asked about how NOAA gets the attitude and orbit data with the bent pipe. Ramsay said they don't. They instead use predicted data. Bob Murphy said he might talk to Chris Lynnes about it.

Reber also said that he had received a lot of feedback in response to Salomonson forwarding his email about data user issues on to people.

Murphy reported that he had given a talk on the upcoming NPP mission at an Ocean NPP meeting, and that there was reasonable response, he thought. He also reported that Mark Abbot gave a talk on his work, and he was clear and candid about the problems, i.e. that there isn't a simple correlation between florescence and productivity.

Murphy also reported that Chuck Trees would be taking over as NASA Headquarters program manager for John Marra.

2.7 MAST Update
Salomonson said that he had asked Conboy to work with Westover to help arrange the Terra Results Symposium being planned for January 7-11, 2002, at the Rosential School of Marine and Atmospheric Science (RSMAS) auditorium in Miami.

Conboy indicated that the location for the next MODIS Science Team Meeting is still to be determined.

Finally, she reported that Winnie Humberson from the EOS Project Science Support Office had turned over a preliminary layout design for the updated MODIS brochure, and that Lindsey was getting it around for review.

3.0 Action Items

3.1 Discipline leads to meet to resolve the issue of beta-release code and science-quality code, and what we need to say about it.

Status: Open.

3.2 Technical team to discuss further the issue of predicted ephemeris data and how to improve it.

Status: Open.